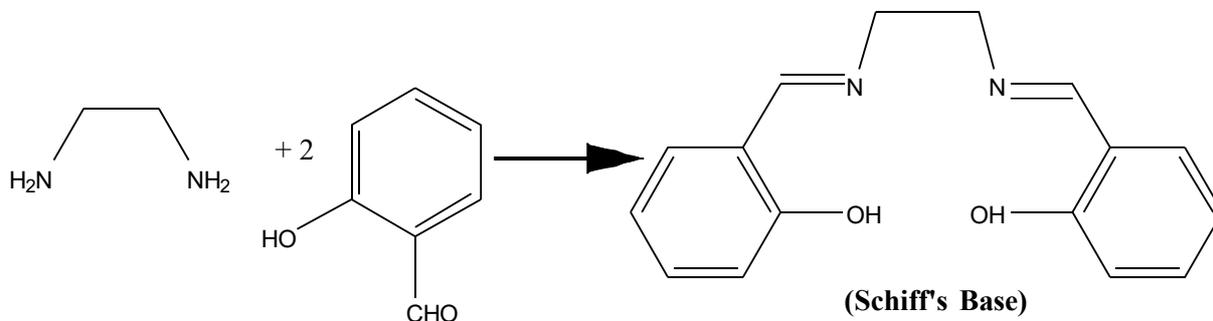


M.Sc. III Sem. Inorganic Chemistry Practical CYPCLD2 Synthesis of Salen:

Reaction



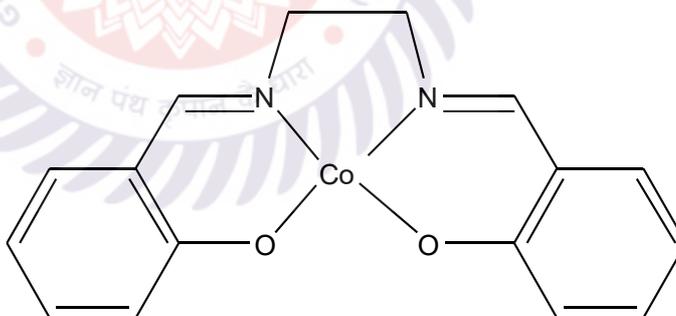
Preparation of Ligand (Schiff's base):

Reagents: (i) Salicylaldehyde, (ii) Ethylenediamine

Procedure: Take 1.8 ml (~4.1 m.mol) of salicylaldehyde in 20 ml of boiling ethanol in a 100 ml round bottom flask. Then 0.6 ml of ethylenediamine was also added. The reaction mixture is to be stirred for 3-4 minutes, then reflux for 30 minutes in a reflux condenser until yellow crystals are formed. The solution then cooled in ice bath. Collect the crystals by filtration under suction and dry in air (wash the product using EtOH).

Yield: ~ 3.30 gm

Preparation of Co-complex:



Procedure: Add Cobalt acetate to the ethanolic solution of Schiff's base in 1:1 molar ratio, i.e. 0.25 g of $\text{Co}(\text{CH}_3\text{COO})_2 \cdot 4\text{H}_2\text{O}$ in 2 ml distilled water solution in 15 ml of ethanol. It should be mixed properly and the mixture is to be stirred for 3-4 minutes, then reflux for 30 minutes in a reflux condenser until products are formed. The solution then cooled in ice bath. Collect the product by filtration under suction and dry in air (wash the product using EtOH).

Yield: ~ 0.25 gm